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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,286	01/16/2002	Mitsuo Horikawa	05711.0137	2337

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EXAMINER	
BOYD, JENNIFER A	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,286	HORIKAWA, MITSUO	
	Examiner	Art Unit	
	Jennifer A Boyd	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed December 31, 2003, have been entered and have been carefully considered. Claims 1 – 5 have been amended and claims 1 - 5 are pending. In view of Applicant's amendments, the Examiner withdraws the 35 U.S.C. 112, 2nd paragraph rejection of claims 1 -5 as set forth in paragraphs 1 - 7 of the previous Office Action mailed August 26, 2003. In view of Applicant's amendment now requiring that the warp is *disposed between* the core string and tape main portion, the Examiner has withdrawn all previously set forth rejections as set forth in paragraphs 9 – 13 of the previous Office Action mailed August 26, 2003. Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1 – 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2 – 5 are rejected as being dependent on rejected claim 1. The details of the rejection can be found in paragraph 8 of the previous Office Action dated August 26, 2003.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 - 2 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsushima (US 6,505,652).

Matsushima is directed to a slide fastener tape (Title).

As to claim 1, Matsushima teaches a fastener tape comprising a woven material containing a main tape portion 4, a core string 9 and flexible yarns 6 (See Figure 1 and column 3, lines 25 – 65). The main tape portion 4 comprises yarns of synthetic fibers such as nylon 6, nylon 66 or polyethylene terephthalate warp yarns 2 and weft yarns 3 (column 3, lines 35 – 45). The core string also comprises synthetic fibers such as synthetic fibers such as nylon 6, nylon 66 or polyethylene terephthalate fibers (column 3, lines 3, lines 60 – 65). The flexible yarns 6 also can comprise synthetic fibers such as nylon 6, nylon 66 or polyethylene terephthalate (column 3, lines 50 – 55). As shown in Figure 1, the flexible yarns 6 are situated between the warp yarn 2 of the main tape portion 4 and the core string 9. The Examiner equates the warp yarns 2 of the main tape portion 4 to Applicant's "foundation warp", the core string 9 to Applicant's "core string" and the flexible yarns 6 to Applicant's "warp disposed between the core string and tape main potion". In one embodiment, the warp yarns 2 of the main tape portion 4, or "foundation warp", may comprise polyethylene terephthalate fibers, the core string, or "core string", may comprise

nylon 6 fibers and the flexible yarns, or "warp disposed between the core string and tape main portion", may comprise nylon 6,6 fibers. It should be noted that polyethylene terephthalate has a thermal expansion (contraction) coefficient of 65×10^{-6}/°C, nylon 6 has a thermal expansion (contraction) coefficient of $80 - 83 \times 10^{-6}$/°C and nylon 6,6 has a thermal expansion (contraction) coefficient of 80×10^{-6}/°C (Marks' Standard Handbook for Mechanical Engineers). Therefore, the warp yarns 2 of the main tape portion 4 would have the lowest thermal contraction coefficient, the flexible yarns 6 would have a higher thermal contraction coefficient then the warp yarns 2 and the core string 9 would have a slightly higher thermal contraction coefficient compared to the flexible yarns 6.

As to claim 2, Matsushima teaches that the warp yarns 2 of the main tape portion 4, or "foundation warp", comprise at least two yarns which are parallel to each other (See Figure 1).

Although Matsushima does not explicitly teach the claimed foundation warp having a lower thermal contraction coefficient than the warps used for the element mounting edge portion and the warp disposed between the core string and the tape main portion has a thermal contraction coefficient higher than the foundation warp used for the tape main portion and lower than the core string, it is reasonable to presume that foundation warp having a lower thermal contraction coefficient than the warps used for the element mounting edge portion and the warp disposed between the core string and the tape main portion has a thermal contraction coefficient higher than the foundation warp used for the tape main portion and lower than the core string is inherent. Support for said presumption is found in the use of like materials (i.e. a fastener tape with a main tape portion 4 of polyethylene terephthalate fibers, a core string 9 of nylon 6 fibers and flexible yarns 6 of nylon 6,6 fibers) which would result in the claimed property. The burden

is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of foundation warp having a lower thermal contraction coefficient than the warps used for the element mounting edge portion and the warp disposed between the core string and the tape main portion has a thermal contraction coefficient higher than the foundation warp used for the tape main portion and lower than the core string would obviously have been present once the Matsushima product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Claim Rejections - 35 USC § 103

6. Claims 3 - 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (US 6,505,652).

As to claim 4, Matsushima teaches that the weft yarns 3 comprises two paralleled yarns (See Figure 1).

As to claims 3 – 4, Matsushima discloses the claimed invention except for that the value of tex of the foundation warp in the tape main portion is set to be larger than the value of tex of the yarn composing the warp disposed between the core string and the tape main portion as required by claim 3 and the value of tex of the total thickness of the two paralleled yarns of the weft is set to be smaller than the value of tex of the total thickness of the two paralleled warp adjacent to the core string. It should be noted that the value of tex and thickness of yarns is a result effective variable. For example, as the value of tex or thickness increases, the yarn and material become stronger and more dimensionally stable. As the value of tex or thickness decreases, the yarn and material becomes more pliable. It would have been obvious to one

having ordinary skill in the art at the time the invention was made to create a fastener stringer with the value of tex of the foundation warp in the tape main portion is set to be larger than the value of tex of the yarn composing the warp disposed between the core string and the tape main portion as required by claim 3 and the value of tex of the total thickness of the two paralleled yarns of the weft is set to be smaller than the value of tex of the total thickness of the two paralleled warp adjacent to the core string since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the tex and thickness of the foundation warp, the warp disposed between the core string and tape main portion and the paralleled weft yarns to allow maximum flexibility to allow easy connection to a garment, for instance, and sturdiness on the edge portion next to the core string to ensure proper strength when zipping.

As to claim 5, Matsushima discloses that that the flexible yarns 6 are bulked (column 3, lines 50 – 55) and the core string 9 is a multi-filament twisted yarn (column 3, lines 60 – 65), which result in textured yarns. Matsushima notes that the texturing of the yarns maintains the stability of the fastener tape (Abstract). Matsushima fails to teach that the warp yarns 2 and weft yarns 3 of the main tape portion 4 comprise textured yarn. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a slide fastener tape with warp yarns 2 and weft yarns 3 of the main tape portion 4 comprise textured yarn since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice. *In re Leshin*, 125 USPQ

416. In the present invention, one would have been motivated to use textured yarns for the warp and weft yarns of the main tape portion to improve the stability of the structure.

Response to Arguments

7. Applicant's arguments filed December 31, 2003 have been fully considered but they are not persuasive.

In response to Applicant's argument that thermal contraction coefficient values are not inherent, the Examiner respectfully argues the contrary. In claim 1, the Applicant relies on the relative values of thermal contraction coefficients to describe the material comprising the "foundation warp", "core string" and "warp disposed between core string and tape main portion". Matsushima teaches all the physical and structural limitations required by claim 1, therefore, it is asserted that the claimed properties must be inherent to the slide fastener tape. If said properties are not inherent, it is asserted that Applicant's claim must be incomplete. In other words, if Applicant's asserts a lack of inherency, then Applicant's claimed invention is missing an element that is critical to the invention, which would patentably distinguish it from the known prior art. It is suggested to the Applicant to claim the material which comprises the "foundation warp", "core string" and "warp disposed between core string and tape main portion" (i.e. the "foundation warp" comprises a polyester yarn, etc.).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Boyd
February 18, 2004

Ula Ruddock
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